Exam. Code : 206703
Subject Code :   5197

M.Sc. Computer Science 3rd Semester

MCS-303 : DATA MINING & WAREHOUSING

Time Allowed—3 Hours]   [Maximum Marks—100

Note :— Attempt any *five* questions. All questions carry
equal marks.

1. (a) What is data warehouse ? Explain the data
       warehouse architecture.   10

    (b) Briefly explain the basic dimensional modeling
       techniques.   10

2. (a) Explain OLTP and OLAP. Discuss the differences
       between them.   10

    (b) Draw and explain 4-dimensional data cube with
       an example.   10

3. (a) Discuss various problems with Data Warehousing.
       Explain mapping the Data Warehouse to multi-
       processor architecture.   10

    (b) How is prediction different from classification ?
                                                   5

    (c) Explain cluster analysis.   5

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4. Explain MOLAP and ROLAP. Explain the following OLAP operations in the multidimensional data model with the diagram and an example :

   (i) Dice for

   (ii) Slice for

   (iii) Drill down

   (iv) Roll up

   (v) Pivot. 20

5. (a) Is it necessary that every small or big company should have a data warehouse ? Justify your answer. 10

   (b) Explain the concept of :

      (i) Metadata Repository

      (ii) Data Warehouse Utilities. 2×5=10

6. (a) Explain various steps involved in Data Mining Process. 10

   (b) Discuss major classifications of Data Mining Systems. 10

7. What is meant by Data Mining Query Language ? How Data specification, Knowledge specification, Hierarchy specification and Pattern Presentation specification can be performed in the language ?

8. (a) Write short notes on :

      (i) Predictive Modelling

      (ii) Link Analysis. 2×5=10

   (b) Discuss any two applications of Data Mining. 10